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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,858	01/21/2004	Alain Charles Louis Briancon	I-2-0424.1US	3069

24374 7590 06/06/2006

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EXAMINER	
DESIR, PIERRE LOUIS	
ART UNIT	**PAPER NUMBER**
2617	

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/761,858	BRIANCON ET AL.	
	Examiner	Art Unit	
	Pierre-Louis Desir	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 02/17/2006
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 9, have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, 7, 9-11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mortensen et al. (Mortensen), Pub. No. US2003/0096608 in view Vucetic et al. (Vucetic), "Implementation and Performance Analysis of Multi-Algorithm Dynamic Channel Allocation in a Wideband Cellular Network", 1996 IEEE International Conference on Communications (ICC), Vol. 3, June 1996, pp. 1270-1274.

Regarding claim 1, Mortensen discloses a method for scheduling radio resource management (RRM) procedures on a radio link by coordinating RRM algorithms in a wireless communication system (see page 2, paragraph 24), comprising the steps of:(a) receiving at least

one trigger (i.e. a congestion situation is detected by the RNC) (see fig. 1, page 2, paragraph 30); (b) evaluating the at least one trigger (i.e. the detected congestion has to be inherently evaluated before the proper selection can take place) (see fig. 1, page 2, paragraph 30); (c) selecting RRM algorithms to execute, based upon the evaluation of the at least one trigger (i.e. in response to the detection of the congestion, and after an inherent evaluation, the RNC makes a selection) (see fig. 1, page 2, paragraph 30 and 33); (d) executing the selected RRM algorithms (i.e. after the RNC made the selection, the execution process takes place and a data packet is received by a mobile phone) (see page 2, paragraph 30-31).

Although, Mortensen discloses a method as described above, Mortensen does not specifically disclose a method further comprising the steps of analyzing the results of the selected RRM algorithms to determine their outcome; choosing a subset of the selected RRM algorithms, based upon their outcome, to determine an optimal set of results; executing the subset of RRM algorithms, the choosing being based on the analysis of the results and placing the radio link into a busy state for the duration of the algorithm's execution whereby all other RRM algorithms are denied access to the radio link until completion of the algorithm.

However, Vucetic discloses a method comprising the steps of analyzing the results of the selected RRM algorithms to determine their outcome; choosing a subset of the selected RRM algorithms, based upon their outcome, to determine an optimal set of results; executing the subset of RRM algorithms, the choosing being based on the analysis of the results and placing the radio link into a busy state for the duration of the algorithm's execution whereby all other RRM algorithms are denied access to the radio link until completion of the algorithm (i.e., to use a multi-algorithm dynamic channel allocation mechanism. It includes several channel allocation

algorithms implemented at the same time in *the* switch of a cellular network. The algorithms are selected so that each one of them provides a significant performance advantage in comparison to the others under the given traffic and interference conditions. An algorithm becomes active in the network when the actual measured offered load and interference conditions indicate that this algorithm would provide the best performance in comparison to the other algorithm implemented in the switch. When a channel is allocated, its util_sts in the UCT table becomes USED for the cell in which it **is** used. The *all-sts* of the channel in the .KT table becomes NOT_ALLOWED for all the cells that might suffer from co-channel interference. In addition, the *all_sts* of adjacent channels changes to NOT_ALLOWED for all cells that might suffer from adjacent-channel interference. When a channel is released, its *util_sts* in the UCT table becomes NOT_USED for the cell in which it is used. The *all_ sts* of the channel in the ACT table becomes ALLOWED for all the cells that could have suffered from co-channel interference during the call. In addition, the *all_sts* of adjacent channels in the ACT table changes to ALLOWED for all cells that could have suffered from adjacent-channel interference) (see abstract, and page 1270 section 4 (dynamic channel allocation functions)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to provide a method wherein the algorithm becomes passive when the traffic and interference conditions change so that another algorithm is expected to provide better performance (se abstract).

Regarding claim 2, Mortensen discloses a method (see claim 1 rejection) including the steps of placing a radio link into a busy state, whereby the radio link is accessible only by the

currently executing RRM algorithm (i.e. Mortensen discloses a way of controlling load (congestion) on communication network by rejecting communication request through forbidding the mobile station to access the channel for some specified length of time; thus one skilled in the art would immediately envision that rejection is an inherent function of the process of placing the radio link into a busy state. Furthermore, while in this state, the radio link is accessible only by the currently executing state so that new configuration can take place) (see page 1, paragraph 2, lines 3-8); performing the RRM algorithm on the radio link (i.e. when the congestion is detected, after evaluation and selection of RRM algorithm, the selected RRM algorithm is executed; thus, performing the RRM algorithm on the radio link takes place) (see page 2, paragraph 30-31); and preparing a set of predicted measurements (i.e. parameter set) for use by the other RRM algorithms in the subset (see page 2-3, paragraph 34); and placing the radio link into an idle state, whereby the radio link is accessible by any RRM algorithm (i.e. when the congestion situation, for instance, is over, the RNC select an interleaving length to be utilized accordingly; thus, one skilled in the art would unhesitatingly conceptualize that placement of the communication link into idle state takes place when the congesting situation is over) (see page 2, paragraph 32. Also refer to Vucetic' abstract, and page 1270 section 4 (dynamic channel allocation functions)).

Regarding claim 3, Mortensen discloses a method (refer to claim 2), wherein the performing step includes configuring a radio link (Mortensen discloses a method in which for changing a parameter set, synchronized radio link reconfiguration can be utilized; thus, inherently the radio link had to be configured before reconfiguration can happen. Furthermore, the steps of evaluating and selecting the trigger as described in claim 1 rejection, can be

considered, as understood from the specification, functions of the configuration process) (see claim 1 rejection, see page 3, paragraph 7).

Regarding claim 4, Mortensen discloses a method (refer to claim 2), wherein the performing step includes reconfiguring an existing radio link (see page 3, paragraph 7).

Regarding claim 7, Mortensen discloses a method as described in claim 2, wherein the set of predicted measurements (i.e. parameter set) (see paragraph 27) is stored in a centralized database (i.e. server) (see paragraph 27).

Regarding claim 9, Mortensen discloses a method for scheduling radio resource management (RRM) procedures by coordinating RRM algorithms in a wireless communication system (see page 2, paragraph 24), comprising the steps of: receiving at least one trigger, each trigger being associated with at least one RRM algorithm (i.e. a congestion situation is detected by the RNC) (see fig. 1, page 2, paragraph 30); performing the RRM algorithm on the radio link (i.e. Mortensen discloses a way of controlling load (congestion) on communication network by rejecting communication request through forbidding the mobile station to access the channel for some specified length of time; thus one skilled in the art would immediately envision that rejection is an inherent function of the process of placing the radio link into a busy state. Furthermore, while in this state, the radio link is accessible only by the currently executing state so that new configuration can take place) (see page 1, paragraph 2, lines 3-8); preparing a set of predicted measurements for use by the other RRM algorithms (see page 2-3, paragraphs 34 and 37); and placing the radio link into an idle state, whereby the radio link is accessible by any RRM algorithm (i.e. when the congestion situation, for instance, is over, the RNC select an interleaving length to be utilized accordingly; thus, one skilled in the art would unhesitatingly

conceptualize that placement of the communication link into idle state takes place when the congesting situation is over) (see page 2, paragraph 32).

Although Mortensen discloses a method as described, Mortensen does not specifically disclose a method comprising placing a radio link into a busy state for the duration of the algorithm's execution, whereby all other RRM algorithms are denied access to the radio link until completion of the algorithm.

However, Vucetic discloses a method comprising placing a radio link into a busy state for the duration of the algorithm's execution, whereby all other RRM algorithms are denied access to the radio link until completion of the algorithm (i.e., to use a multi-algorithm dynamic channel allocation mechanism. It includes several channel allocation algorithms implemented at the same time in *the* switch of a cellular network. The algorithms are selected so that each one of them provides a significant performance advantage in comparison to the others under the given traffic and interference conditions. An algorithm becomes active in the network when the actual measured offered load and interference conditions indicate that this algorithm would provide the best performance in comparison to the other algorithm implemented in the switch. When a channel is allocated, its util_sts in the UCT table becomes USED for the cell in which it **is** used. The *all-sts* of the channel in the .KT table becomes NOT_ALLOWED for all the cells that might suffer from co-channel interference. In addition, the *all_sts* of adjacent channels changes to NOT_ALLOWED for all cells that might suffer from adjacent-channel interference. When a channel is released, its *util_sts* in the UCT table becomes NOT_USED for the cell in which it is used. The *all_ sts* of the channel in the ACT table becomes ALLOWED for all the cells that could have suffered from co-channel interference during the call. In addition, the *all_sts* of

adjacent channels in the ACT table changes to ALLOWED for all cells that could have suffered from adjacent-channel interference) (see abstract, and page 1270 section 4 (dynamic channel allocation functions)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to provide a method wherein the algorithm becomes passive when the traffic and interference conditions change so that another algorithm is expected to provide better performance (se abstract).

Regarding claim 10, Mortensen discloses a method (see claim 9 rejection), wherein the performing step includes configuring a radio link (Mortensen discloses a method in which for changing a parameter set, synchronized radio link reconfiguration can be utilized; thus, inherently the radio link had to be configured before reconfiguration can happen. Furthermore, the steps of evaluating and selecting the trigger as described in claim 1 rejection, can be considered, as understood from the specification, functions of the configuration process) (see claim 1 rejection, see page 3, paragraph 7).

Regarding claim 11, Mortensen discloses a method (see claim 9 rejection), wherein the performing step includes reconfiguring an existing radio link (see page 3, paragraph 7).

Regarding claim 14, Mortensen discloses a method, wherein the set of predicted measurements (i.e. parameter set) (see paragraph 27) is stored in a centralized database (i.e. server) (see paragraph 27).

5. Claims 5-6, 8 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mortensen and Vucetic in further view of Lu, U.S. Patent No. 6771624.

Regarding claim 5, Mortensen discloses a method (see claim 2 rejection), wherein if the RRM algorithm to be performed needs access to a radio link that is in the busy state, then performing the steps of: setting a flag associated with the RRM algorithm to indicate a pending state (i.e. one way of controlling the load on the communication network consist of rejecting communication requests of a mobile station with a message forbidding the mobile station to access the channel for some specified length of time; one skilled in the art would immediately envision that when congestion arises, a message/flag associated with RRM algorithm is sent to indicate a pending state by forbidding channel access) (see page 1, paragraph 2).

Although the combination discloses a method as described above, the combination does not specifically disclose the steps of queuing the RRM algorithm to be performed at a later time.

However, Lu discloses that packets are stored in multiple queues with priorities (see col. 1, lines 49-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation to do so would have been to prevent congestion while obtaining optimum adaptability.

Regarding claim 6, the combination discloses a method as described in the preceding rejection (see claim 5 rejection).

Although, the combination discloses a method as described above, the combination does not specifically disclose a method wherein any queued RRM algorithms is performed when the radio link is in the idle state.

However, Lu discloses that packets are stored in multiple queues with priorities (i.e. one skilled in the art would unhesitatingly conceptualize that queuing of RRM algorithm has to take place when the communication session in the idle state) (see col. 1, lines 49-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation to do so would have been to obtain optimum efficiency with the method).

Regarding claim 8, Mortensen discloses a method as described in claim 1 rejection (see claim 1 rejection above).

Although Vucetic discloses a method wherein the multi-algorithm channel allocation mechanism provides a significant improvement in network performance (maximize throughput) because it selects the most superior available channel allocation algorithm with respect to the actual traffic and interference conditions, the combination does not specifically discloses a method further comprising the step of ordering the subset of RRM algorithms.

However, Lu discloses a method for managing a plurality of RRM algorithm by defining algorithm priority levels before the execution process (see col. 3, lines 6-14)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both methods to arrive at the claimed invention. A motivation to do so would have been to obtain optimum efficiency with the method (see col. 3, lines 6-8).

Regarding claim 12, Mortensen discloses a method (see claim 9 rejection), wherein if the RRM algorithm to be performed needs access to a radio link that is in the busy state, then performing the steps of: setting a flag associated with the RRM algorithm to indicate a pending state (i.e. one way of controlling the load on the communication network consist of rejecting

communication requests of a mobile station with a message forbidding the mobile station to access the channel for some specified length of time; one skilled in the art would immediately envision that when congestion arises, a message/flag associated with RRM algorithm is sent to indicate a pending state by forbidding channel access) (see page 1, paragraph 2).

Although Mortensen discloses a method as described above, Mortensen fails to specifically disclose the steps of queuing the RRM algorithm to be performed at a later time.

However, Lu discloses that packets are stored in multiple queues with priorities (see col. 1, lines 49-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Mortensen with the teachings of Lu to arrive at the claimed invention. A motivation to do so would have been to prevent congestion while obtaining optimum adaptability.

Regarding claim 13, Mortensen discloses a method (see claim 12 rejection) as described above.

Although, Mortensen discloses a method as described above, Mortensen fails to specifically disclose a method wherein any queued RRM algorithms is performed when the radio link is in the idle state.

However, Lu discloses that packets are stored in multiple queues with priorities (i.e. one skilled in the art would unhesitatingly conceptualize that queuing of RRM algorithm has to take place when the communication session in the idle state) (see col. 1, lines 49-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Mortensen with the teachings of Lu to arrive at the

claimed invention. A motivation to do so would have been to obtain optimum efficiency with the method).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Louis Desir whose telephone number is (571) 272-779. The examiner can normally be reached on Monday-Friday 8:00AM- 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pierre-Louis Desir
05/28/2006

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER